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ILLUSTRATIONS OF
ALL OF THE MOLLUSKS DESCRIBED
BY LORRAINE SCREVEN FRIERSON

By RICHARD I. JOHNSON

Between 1898 and 1928, L. S. Frierson described 47 species of mollusks, all of them fresh-water mussels, mostly from the southern states of the United States. Frierson did not always select a holotype to represent each species, but if one specimen was figured or measured, it is regarded here as the holotype. In other instances lectotypes have been selected. In some cases the types have been lost, especially the shells named from illustrations and, with a single exception, those in the Utterback collection (Johnson, 1969).

Frierson's best known work is his *Classified and Annotated Check List of the North American Naiades* (1927). His championship of Rafinesque's taxa is well known as is his rejection of the nomenclatorial revisions of Ortmann and Walker (1922). This has been discussed by van der Schalie (1952) and Morrison (1969) and is of no concern here. Frierson introduced 26 new genera and subgenera, mostly in his Check List (1927). None of these was accompanied by a diagnosis, but only with type designations.

All of Frierson's types or type figures are illustrated here. References to paratypes and paralectotypes are included when they were located in the several major collections studied. Frierson's collection of Unionidae was purchased after his death by Bryant Walker, whose collection

later went to the Museum of Zoology, University of Michigan. Frierson's collection included the collection of T. H. Aldrich, one-half of that of W. A. Marsh (it was originally purchased by Frierson and Walker who divided it) as well as material from B. H. Wright, A. A. Hinkley and most of his other contemporaries.

A biographical account of Frierson is not included here since the author can contribute nothing new to the interesting account by Strecker (1929).

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ACKNOWLEDGMENTS

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1898. *Unio (Lampsilis) amphichaenus*. *Nautilus*, 11: 109-110, pl. 1.
1899. How Uniones emigrate. *Nautilus*, 12: 139-140.
1899. The Unionidae of DeSoto Parish, Louisiana. *Gulf Fauna and Flora, Bull. [Ruston, Louisiana]*, vol. 1, no. 1 [all published] pp. 6-12.

1899. Among the unios of the Sabine River. *Nautilus*, 13: 79-81.
1900. A new Alabama unio. *Nautilus* 13: 109-110, pl. 2.
1900. An hour on the Great Raft of the Red River. *Nautilus*, 14: 67-69.
1901. A new unio from Texas. *Nautilus*, 15: 75-76, pl. 4.
1902. Collecting Unionidae in Texas and Louisiana. *Nautilus*, 16: 37-40.
1903. The specific value of *Unio declivis*. *Nautilus* 17: 49-51, pl. 3.
1903. Observations on the byssus of Unionidae. *Nautilus*, 17: 76-77.
1904. Structure of the shell of unio. *Nautilus*, 17: 98-99, 1 fig.
1904. Observations on the genus *Quadrula*. *Nautilus*, 17: 111-112.
1905. New Unionidae from Alabama. *Nautilus*, 19: 13-14, pl. 1.
1905. Notes on young Unionidae. *Nautilus* 19: 49-50.
1906. Some observations on the ova of Unionidae. *Nautilus*, 20: 68-69.
1907. Notes on some exotic Unionidae. *Nautilus* 21: 49-50, pl. 6.
1907. A new Mexican mussel, *Lampsilus fimbriata*. *Nautilus*, 22: 86-87, pl. 12.
1908. Notes on some Australian Unionidae. *Nautilus* 22: 118-119.
1908. Description of a new *Pleurobema*. *Nautilus* 22: 27-28, pl. 3.
1909. Remarks on the subfamilies Hyriinae and Unionidae. *Nautilus*, 22: 106-107.
1910. Description of a new species of Anodonta. *Nautilus*, 23: 113-114, pl. 10.
1910. Notes on oriental Unionidae. *Nautilus*, 24: 92-94.
1911. Notes on oriental Unionidae. *Nautilus*, 24: 97-98.
1911. A comparison of the Unionidae of the Pearl and Sabine Rivers. *Nautilus*, 24: 134-136.
1911. New Florida unio. *Nautilus*, 25: 29-30. 1 pl.
1911. Notes on *Lampsilis discus* (Lea). *Nautilus*, 25: 36.
1911. Remarks on *Unio varicosus*, *ciatricosus*, and *Unio compertus*, new species. *Nautilus*, 25: 51-54, pls. 2-3.
1912. Notes on *Anodonta couperiana* and *A. gibbosa*. *Nautilus*, 25: 129-130.
1912. *Unio (Lampsilis) purpuratus* Say. *Nautilus*, 26: pp. 22-23, pl. 3.
1912. *Unio jacksonianus*, new species from Pearl River, Mississippi. *Nautilus*, 26: 23-24, pl. 3.

1913. Some criticisms of Dr. Haas' monograph of the Unionidae. *Nautilus*, **26**: 141-142.
1913. *Unio (Nephronaias) ortmanni*, new species. *Nautilus*, **27**: 14-15, pl. 2.
1913. Two new species of *Parreysia* from Kamerun, Africa. *Nautilus*, **27**: 85-86, pl. 5.
1914. Remarks on classification of the Unionidae. *Nautilus*, **28**: 6-8.
1914. Observations on the genus *Symphynota*. *Nautilus*, **28**: 40.
1914. A new pearly freshwater mussel of the genus *Hyria* from Brazil. *Proc. U. S. Nat. Mus.*, **47**: 363, pl. 12.
1915. *Lasmigona subviridis* Conrad redivivus. *Nautilus*, **29**: 57-59.
1915. On the genus *Harmandia*. *Nautilus* **29**: 82.
1916. Observations on the *Unio cor* Conrad. *Nautilus*, **29**: 102-104, pl. 3.
1916. Observations on the *Unio giganteus* Barnes. *Nautilus*, **30**: 61-64.
1917. New genera and species of Central American naiades. *Nautilus*, **31**: 47-49, pl. 7.
1917. On the rate of growth of pond unios. *Nautilus*, **31**: 49-50, pl. 7.
1919. Remarks on the identity of "*Unio fasciata*" Rafinesque. *Nautilus*, **32**: 139-141.
1920. *Lasmigona viridis* Rafinesque. *Nautilus*, **33**: 127-130.
1922. Observations on the genera *Leila* and *Anodontites*. *Nautilus*, **35**: 7-10.
1922. Observation on the genus *Margaritana* with a new sub-genus. *Nautilus*, **36**: 42-44.
1923. Inhabitants of a natural aquarium. *Nautilus*, **36**: 126-129.
1924. Interesting facts in the history of *Unio orbiculatus* Hildreth and *U. abruptus* Say. *Nautilus*, **37**: 135-137.
1927. A classified and annotated check list of the North American naiades. Baylor Univ. Press, Waco, Texas, pp. 111 and "errata et corrigenda" sheet.
1928. Illustrations of Unionidae [described in Check List]. *Nautilus*, **41**: 138-139, pls. 1-3.
1928. *Gibbosula confragosa*, a new unionid mussel from China. *Proc. Acad. Nat. Sci. Phila.*, **80**: 147, pl. 21.
- PILSBRY, H. A., and L. S. FRIERSON. 1908. Description of a Mexican *Lampsilis*. *Nautilus*, **22**: 81-82. Figured on unnumbered plate in 21.

Recent molluscan taxa described by L. S. Frierson with their original references and type localities.

For convenience of reference the following list is arranged alphabetically by species. The plates are arranged by genera and approximate morphological relationship when possible. The figures usually approximate natural size. The actual measurements of the types are given on the plate captions. All locality data in brackets have been found on the original labels or are additions or corrections from recent maps.

ABBREVIATIONS

- ANSP—Academy of Natural Sciences of Philadelphia, Pennsylvania.
- MCZ—Museum of Comparative Zoology, Cambridge, Massachusetts.
- MZUM—Museum of Zoology, University of Michigan, Ann Arbor, Michigan.
- USNM—United States National Museum, Washington, D.C.

- aldrichi*, *Pleurobema* Plate 24, fig. 2
1927, Check List, p. 44 ([Alabama River] Selma [Autauga Co.], Alabama). The type figured by Frierson, 1928, *Nautilus*, 41: 139, pl. 3, fig. 1, and the other three specimens in the original lot presumed to be in the MZUM could not be located, therefore the specimen in the ANSP labeled "cotype" which appears to be the measured type and not the one figured is, here selected, lectotype ANSP 145246.
- amazonia*, *Hyria* Plate 32, fig. 3
1914, Proc. U. S. Natl. Mus. 47: 363, pl. 12 (Amazon River, Brazil). Holotype USNM 83877. Known only from the type.
- amphichaenus*, *Unio* (*Lampsilis*) Plate 27, fig. 1
1898, *Nautilus*, 11: 109, pl. 1 (Sabine River, Logansport

[De Soto Parish], Louisiana). Holotype USNM 159935; paratype MZUM 107936; 2 paratypes ANSP 77560.

archeri, *Quadrula* Plate 25, fig. 6
1905, Nautilus, 19: 13, pl. 1, figs. 1, 2 (Tallapoosa River, Tallassee [Elmore Co.], Alabama). Holotype MZUM 113583. The 3 other specimens in the original lot were in the collection of A. A. Hinkley, its present location is unknown.

Bullata Subgenus

1927, Check List, p. 10, Type species, *Unio pustulosa* Lea, original designation, *non* Josseume 1875. *Ibid.*, p. 48. Changed to *Pustulosa* on errata sheet.

Capsaeformis Subgenus

1927, Check List, p. 11. Type species, *Unio capsaeformis* Lea, original designation, *Ibid.*, p. 95.

cicatricoides, *Unio*

Plate 23, fig. 2
1911, Nautilus, 25: 53, pl. 2 upper fig. (no locality [Wabash River, Indiana]). Holotype MZUM 87570. "This is [similar to] the shell figured and described by Conrad, 1840, Monography Unionidae of North America, pt. 13, p. 115, pl. 64; and Call, 1900, Mollusca of Indiana, from 24th Ann. Rept. Dept. Geol. and Nat. Resources of Indiana, pl. 55."

compertus, *Unio*

Plate 24, fig. 1
1911, Nautilus, 25: 53, pl. 3 middle and lower figures (Clinch and Holston rivers [Tennessee]). Lectotype, here selected, MZUM 87769, lower figure.

confragosa, *Gibbosula*

Plate 32, fig. 6
1928, Proc. Acad. Nat. Sci. Phila., 80: 147, pl. 21, figs. 1-2 (North China). Holotype ANSP 145237. Known only from the type.

conradi, *Obliquaria reflexa*

Plate 26, fig. 6
1927, Check List, p. 65 (Alabama River). Based on Conrad, 1835, Monography Unionidae, p. 7, lectotype, here selected, ANSP 56695a, labeled "Alabama River, J. S.

Phillips", believed to be one of the shells seen by Conrad. Specimens under this name from the Frierson collection MZUM 98197, Tombigbee River, Alabama.

cylindraceus, *Unio*

1927, Check List, p. 29. New name for *Unio lugubris* Lea, 1838, non Say, 1832.

cutisii Frierson and Utterback, *Truncilla*

Plate 26, figs. 5, 7

1916 [in] Utterback, American Midland Nat., 4: 453 [1916 reprinted as: *Naiades of Missouri*, p. 190] pl. 6, figs. 14a-d; pl. 28, figs. 109A-D (White River, Hollister [Taney Co.], Missouri). Holotype in collection of Utterback [lost].

dakota, *Anodonta*

Plate 22, fig. 1

1910, Nautilus, 23: 113, pl. 10 (Clear Lake, Ulvers Point, Deuel Co., South Dakota). Holotype MZUM 87582; paratype MCZ 134118.

dakotana Utterback, *Anodonta*

Frierson, 1927, Check List, p. 15, non *dakota* Frierson 1910.

dalliana, *Parreysia*

Plate 32, fig. 4

1913, Nautilus, 26: 142 (Birma). Based on the figures of Haas, 1912, [in] Martini and Chemnitz, Conchylien Cabinet (2) 9, Pt. 2, Sec. II, pl. 32, figs. 3, 4. Restricted by Haas, 1919. *Ibid.*, p. 263, to fig. 4 (Pegu). Holotype Senckenberg Mus., Frankfurt am Main 13699/2, *teste* Zilch, 1967, Archiv für Moll., 97: 87.

detectus, *Unio*

Plate 23, fig. 1

1911, Nautilus, 25: 52, pl. 2, lower fig.; pl. 3, upper fig. (no locality [Ohio River]). Holotype MZUM 87571. "This is the true *varicosus* of Lea whose type shell is not typical of the species, i.e. is not the average specimen."

Elliptoideus Subgenus

1927, Check List, p. 10. Type species, *Unio sloatianus* Lea, original designation 1840. *Ibid.*, p. 33.

- fictum*, *Pleurobema* Plate 25, fig. 2
1927, Check List, p. 43 (Cahaba River, Alabama). Holotype MZUM 87575, figured by Frierson, 1928, *Nautilus*, 41: 139, pl. 3, fig. 2, 2a; paratype ANSP 145244.
- fimbriata*, *Lampsilis* Plate 27, fig. 2
1907, *Nautilus*, 21: 86, pl. 12, two upper figs. and lower left one. (Valles River [near Valles, San Luis Potosi State, Mexico]). Holotype MZUM 87579; 3 paratypes MCZ 167699; paratypes ANSP 99547; paratype USNM 207440.
- hagleri*, *Unio* (*Pleurobema*) Plate 25, fig. 1
Nautilus, 13: 109, pl. 2 (North River, near Tynes [= Tyner, Tuscaloosa Co.] Alabama). Lectotype, here selected, ANSP 77902a, two lower figs.; paralectotypes MCZ 134119; 12 paralectotypes MZUM 80804; paralectotype USNM 159508. The original lot consisted of thirty specimens.
- harciotti*, *Elliptio* Plate 29, fig. 4
Check List, p. 38 (Guatemala). Holotype MZUM 97047, figured by Frierson, 1928, *Nautilus*, 41: 139, pl. 3, fig. 4; paratype ANSP 145240. Known only from these two specimens.
- Heudeana* Subgenus
1922. *Nautilus*, 36: 43. Type species, *Unio murinus* Heude, original designation.
- iridella* Pilsbry and Frierson, *Lampsilis* Plate 28, fig. 1
1907, *Nautilus*, 21: pl. 12, two lower right figures. 1908, *Nautilus* 22: 81 ([Valles River] Valles, [San Luis Potosi State] Mexico). Holotype ANSP 93810a; paratypes MZUM [not located], 3 paratypes MCZ 100405.
- jacksonianus*, *Unio* (*Obovaria*) Plate 26, fig. 4
1912, *Nautilus*, 26: 23, pl. 3, figs. 1-3 (Pearl River, Mississippi and also Yalabusha River, Mississippi). Lectotype, here selected, ANSP 106063a., figs. 1, 2, paralectotypes

ANSP 106063; paralectotypes MZUM 107523; paralectotypes MCZ 276052 and 176051.

kusteriana, *Lampsilis tampicoensis* Plate 30, fig. 1
1927, Check List, p. 85. Based on the figure of Kuester, 1862, [in] Martini and Chemnitz, Conchylien Cabinet, pt. 9, 2: 275, pl. 93, fig. 1 (Tampico [Tamaulipas State] Mexico). Type in collection of Von dem Busch, location unknown.

kuxensis, *Psoronaias* Plate 31, fig. 3
1917, Nautilus, 31: 48, pl. 7, figs. 1, 2 (Kux Creek, Chama, [Alta Verapaz State] Guatemala, a few dead specimens were [also] obtained on the bank of the Isaibha River (Chama) of which the Kux Creek is a tributary). Lectotype, here selected, ANSP 117094a, upper figure; paralectotype ANSP 117094, lower figure; 2 paralectotypes MCZ 108080.

lananensis, *Quadrula* Plate 25, fig. 4
1901, Nautilus, 15: 75, pl. 4 (Lanana and Banita creeks, near Nacogdoches [Nacogdoches Co.], Texas). Lectotype, here selected, ANSP 81561a, upper figure; paralectotype ANSP 81561, lower figure; 4 paralectotypes MCZ 269683.

lobensis, *Parreysia* Plate 32, fig. 1
1913, Nautilus, 27: 85, pl. 5, lower figs. (Lobo River, Kamerun [Cameroon]). Holotype MCZ 21164; 2 paratypes MCZ 72807; paratype MZUM [not found].

Luceacarnea Subgenus

1927, Errata sheet. New name for *Striata* Frierson, 1927, Check List, pp. 10, 50. *non* Boettger 1878.

marshalli, *Pleurobema* Plate 24, fig. 3
1927, Check List, p. 43. (Tombigbee River, Boligee [Greene Co.], Alabama). Holotype, MZUM 80859 figured by Frierson, 1928, Nautilus, 41: 139, pl. 3, fig. 3; paratype ANSP 145245.

martensi, *Lampsilis* Plate 29, fig. 2
1927, Check List, p. 83. Based on the figure of: Martens,

1900, *Biologia Centrali Americana*, 9: 503, pl. 37, figs. 1, 1a. (Playas of Misantla, Dist. of Misantla, Vera Cruz State, Mexico). Type in collection of Strebel, Hamburg Mus. Destroyed in World War II.

martensi, *Psoronaias* Plate 31, fig. 1
1927, Check List, p. 64. Based on the figure of: Martens, 1900, *Biologia Centrali Americana*, 9: 494, pl. 31, figs. 1, 1a, 2. Type figure, here restricted to figs. 1, 1a (Rio de las Salinas, Guatemala). Collection of Stoll [location unknown].

Martensnaias Subgenus

1927, Check List, p. 10. Type species, *Unio rubicundus* Martens, original designation. *Ibid.*, p. 38.

Nephritica Subgenus

1927, Check List, p. 10. Type species, *Unio poeyanus* Lea, original designation. *Ibid.*, p. 38.

novileonensis, *Lampsilis*

1927, Check List, p. 83. Misprint of *novileonis* Pilsbry.

nyangensis, *Parreysia*

Plate 32, fig. 2
1913, *Nautilus*, 27: 86, pl. 5, upper figs. (Nyang River, Kamerun [Cameroon]). Holotype MCZ 21160. Known only from the type.

Obliquata Subgenus

1927, Check List, p. 10. Type species, *Obliquaria obliquata* Rafinesque, original designation. *Ibid.*, p. 52, *Obliquaria (Scalenaria) obliquata* Rafinesque = *Unio pyramidatus* Lea.

ortmanni, *Unio (Nephronaias)*

Plate 30, fig. 3
1913, *Nautilus*, 27: 14, pl. 2 (Conchins River, near Quirigua [Izabal State] Guatemala, Atlantic Drainage). Lectotype ANSP 977544a, upper figs.; 9 paralectotypes MZUM 108005; 3 paralectotypes MCZ 20916. Is *Elliptio sphenorhynchus* Crosse and Fischer, *teste* Frierson, 1927, Check List, p. 36.

Ortmanniana Subgenus

1927, Check List, p. 11. Type species, *Unio carinatus* Barnes, original designation. *Ibid.*, p. 79.

ovatus, *Strophitus undulatus* Plate 22, fig. 2
1927, Check List, p. 22 (Middle West). Lectotype, here selected, MZUM 87584 from Lyon Creek, Edwards Co., Illinois; paralectotype MZUM 87585.

Penita Subgenus

1927, Check List, p. 11. Type species, *Unio penitus* Conrad, original designation. *Ibid.*, p. 93.

pentagonoides, *Quadrula trapezoides* Plate 26, fig. 8
1927, Nautilus 16: 39 (Lake Charles, a shallow expansion of the Calcasieu River [N Lake Charles, Calcasia Parish] Louisiana). Lectotype, here selected, ANSP 128928; paralectotype USNM 533698. Is *Amblema dombeyana* Valenciennes, *teste* Frierson, 1927, Check List, p. 62.

petrinus 'Call' Frierson, *Unio*
1927, Check List, p. 49, *nomen nudum*. Listed as a synonym of *Quadrula aurea* (Lea).

pilsbryana, *Lampsilis* Plate 27, fig. 3
1927, Check List, p. 83. Based on a specimen of *Unio purpuratus* Frierson, *non* Say figured by Frierson, 1912, Nautilus, 26: 22, pl. 3, figs. 4, 5 (no locality [Mexico]). Holotype MZUM 91175; paratypes ANSP 99551.

Pleuonaia Subgenus

1927, Check List, p. 58, emendation of *Pleuonia*.

Pleuonia Subgenus

1927, Check List, p. 10. Type species, *Unio barnesianus* Lea, original designation.

plexoides, *Psoroniaias* Plate 31, fig. 2
1927, Check List, p. 63. Based on the figure of Sowerby, 1868, Conch. Iconica, 16, *Unio*, pl. 64, p. 324 (Siam, Taylor colln.). Holotype not in BMNH [lost]; and *Unio crocodilarum* Simpson, *non* Morelet, Proc. U. S. Natl. Mus., 22: 207 (Rio Usumacinta, Guatemala).

Popenaias Subgenus

1927, Check List, p. 10, Type species, *Unio popei* Lea, original designation. *Ibid.*, p. 38.

Pseudodontoideus Subgenus

1927, Check List, p. 9. Type species, *Margaritana alabamensis* Lea, original designation. *Ibid.*, p. 23.

Ptychobranchus Subgenus

1927, Check List, p. 10. Type species, *Obliquaria fasciolaris* Rafinesque. *Ibid.*, p. 64.

Pustulosa Subgenus

1927, Check List, Errata sheet, new name for *Bullata*, non Josseume 1875.

rafinesqueana, *Lampsilis*

Plate 28, fig. 5

Plate 29, fig. 1

1927, Check List, p. 69 [Mud Creek] Moodys [10 mi. N Tahlequah, Cherokee Co.], Oklahoma). Holotype MZUM 87576, figured by Frierson, 1928, *Nautilus*, 41: 138, pl. 1, figs. 1, 2; paratype ANSP 145238.

Reticulata Subgenus

1927, Check List, p. 10. Type species, *Nephronaias reticulata* Simpson, original designation. *Ibid.*, p. 38, changed to *Reticulatus*

robsoni, *Parveysia*

Plate 32, fig. 5

1927, Check List, p. 44. (East Indies). Based on the figure of Reeve, 1866 *Conch. Iconica*, 16. *Unio*, pl. 36, fig. 198. Figured holotype BMNH 1965150.

rubidula, *Quadrula*

Plate 25, fig. 3

1905, *Nautilus* 19: 14, pl. 1, figs. 3, 4 (Mulberry River also Black Warrior River and North River [Tyner, Tuscaloosa Co.] Alabama). Holotype MZUM 113535; USNM 348993.

sajensis, *Elliptio*

Plate 30, fig. 2

1927, Check List, p. 37 (Saja River [4 mi. W] Esmeralda, Guatemala). Holotype MZUM 108010, figured by Frierson, 1928, *Nautilus*, 41: 139, pl. 2, fig. 2; paratypes ANSP 145239.

sampsoniana, *Quadrula flava* Plate 25, fig. 5
1927, Check List, p. 55 (Elk River, [McDonald Co.],
Missouri). Lectotype, here selected, MZUM 92226; para-
lectotype ANSP 145241.

Simpsonaias Genus

1914, Nautilus, 28: 7. Type species, *Alasmidonta ambigua*
Say, original designation. *non Simpsonia* Rochebrune
1904.

Simpsoniconcha Genus

1914, Nautilus, 28: 40. New name for *Simpsonaias*
Frierson 1914, *non Simpsonia* Rochebrune 1904.

sowerbyana, *Lampsilis*

Plate 28, fig. 3

1927, Check List, p. 69 (Duck River, Tennessee). Based
on the figure of Sowerby, 1868, Conch. Iconica, 16, *Unio*,
pl. 63, fig. 316 (Harpeth River, Tennessee, Sowerby
colln.). Holotype, not in BMNH [lost]. Two specimens
mentioned as being in Frierson colln., not found in
MZUM.

streckeri, *Lampsilis*

Plate 28, fig. 2

1927, Check List, p. 74 (Little Red River, Arkansas).
Holotype MZUM 91075, figured by Frierson, 1928, Nau-
utilus, 41: 139, pl. 2, fig. 1.

Striata Subgenus

1927, Check List, p. 10. Type species, *Obovaria striata*
Rafinesque, *Ibid.*, p. 50. *Non Striata* Boettger 1878.
Changed to *Luteacarneae* on errata sheet.

Subtentus Subgenus

1927, Check List, p. 10. Type species, *Unio subtentus*
Say, original designation. *Ibid.*, p. 65.

tennesseensis, *Strophitus undulatus*

Plate 22, fig. 3

1927, Check List, p. 22 (headwaters of the Tennessee
River). Lectotype MCZ 16690, selected by Johnson, 1956,
Bull. Mus. Comp. Zool., 115, p. 138, pl. 2, fig. 1, from
Duck River, Shelbyville, Bedford Co., Tennessee; para-
lectotype MZUM 87583 from Elk River, Tennessee.

tenuisculus, *Unio* Plate 29, fig. 3
 1911, *Nautilus* 25: 29, pl. 1, figs. 4-6 (Reedy Lake, Polk Co., Florida in the Gulf drainage). Lectotype, here selected, MZUM 96312, figs. 4, 6; 3 paralectotypes MCZ 20180; 6 paralectotypes ANSP 105060.

trigonoides 'Frierson' Utterback, *Fusconaia undata* Plate 26, fig. 3
 1915, *American Midland Nat.*, 4: 107 [1916 reprinted as: *Naiades of Missouri*, p. 25] pl. 15, figs. 30, A-D, pl. 4, figs. 9a, b (Platte River, Dixon Falls [not located] and Garrettsburg [Buchanan Co.]; Osage River, Schell City [Vernon Co.], and Warsaw [Benton Co.]; all Missouri). Holotype [lost].

tombigbeanum, *Pleurobema* Plate 24, fig. 4
 1908, *Nautilus* 22: 27, pl. 3, figs. 3, 4 ([Tombigbee River] Demopolis, Marengo Co., Alabama); also [Tombigbee River], Columbus [Lowndes Co.], Mississippi). Lectotype, here selected, ANSP 173339a, fig. 4 from the latter locality; paralectotype ANSP 173340, fig. 3. Is *Pleurobema taitianum* Lea, *teste* Frierson 1927, Check List, p. 42.

Torulosa Subgenus

1927, Check List, p. 11. Type species, *Amblema torulosa* Rafinesque, original designation, *Ibid.*, p. 94.

Truncillopsis 'Walker' Frierson Subgenus

1927, Check List, p. 11, Type species, *Truncilla triquetra* Rafinesque, original designation. *Ibid.*, p. 96.

Utterbackiana Subgenus

1927, Check List, p. 17, Type species, *Anodonta suborbiculata* Say, monotypic.

utterbackiana, *Quadrula tuberculata* Plate 26, fig. 2
 1927, Check List, p. 52. Based on Utterback, 1915, *American Midland Nat.*, 4: [1916 reprinted as: *Naiades of Missouri*, p. 72] pl. 20, figs. 57, a, b (Gasconade River, Gascondy, Osage Co., Missouri). Holotype [lost]. New name for *Plethobasus cooperianus* Utterback, non Lea.

utterbackii, *Pleurobema* Plate 24, fig. 5
 1915 [in] Utterback, American Midland Nat., 4: 197
 [1916 reprinted as: Naiades of Missouri, p. 86], pl. 5,
 figs. 12, a, b; pl. 20, figs. 63, A-D (White River, Hollister
 [Taney Co.] Missouri). Holotype MCZ 271448.

Venusta Subgenus

1927, Check List, p. 11. Type species, *Unio venustus* Lea,
 original designation. *Ibid.*, p. 81, non *Venusta* Boettger
 1877. Changed to *Venustaconcha* on errata sheet.

Venustaconcha Subgenus

New name for *Venusta* Frierson, 1927, non Boettger
 1877, see under *Venusta*.

Villosa Subgenus

1927, Check List, p. 11. Type species, *Unio villosus*
 Wright, original designation. *Ibid.*, p. 80.

vittata, *Quadrula*

Plate 26, fig. 1

1927, Check List, p. 50. Based on the figure of Reeve,
 1865, Conch. Iconica, 16, *Unio*, pl. 23, fig. 106 (North
 America, Cuming colln.). Holotype BMNH [lost].

wrightiana, *Lampsilis*

Plate 28, fig. 4

1927, Check List, p. 81 (Volusia Co., Florida). Holotype
 MZUM 91179, figured by Frierson, 1928, Nautilus, 41:
 139, pl. 2, fig. 3; 7 paratypes MZUM [not located].

Plate 22

Fig. 1. *Anodonta dakota* Frierson. Clear Lake, Ulvers Point, Deuel Co., South Dakota. Holotype MZUM 87582. Length 76, height 51, width 40 mm (nat. size).

Fig. 2. *Strophitus undulatus ovatus* Frierson. Lyon Creek, Edwards Co., Illinois. Lectotype MZUM 87584. Length 81, height 55, width 31 mm (slightly reduced).

Fig. 3. *Strophitus undulatus tennesseensis* Frierson. Duck River, Shelbyville, Bedford Co., Tennessee. Lectotype MCZ 16690. Length 92, height 53, width 30 mm (slightly reduced).



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Plate 23

Fig. 1. *Unio detectus* Frierson. Ohio River. Holotype MZUM 87571. Length 87, height 70, width 39.5 mm (slightly reduced).

Fig. 2. *Unio cicatricoides* Frierson. Wabash River, Indiana. Holotype MZUM 87570. Length 93, height 69, width 55.5 mm (slightly reduced).



Plate 23

Plate 24

Fig. 1. *Unio compertus* Frierson. Clinch and Holston Rivers, Tennessee. Lectotype MZUM 87769. Length 63, height 52, width 36 mm (slightly reduced).

Fig. 2. *Pleurobema aldrichi* Frierson. Alabama River, Selma, Autauga Co., Alabama. Lectotype ANSP 145246. Length 50, height 51, width 29.5 mm (nat. size).

Fig. 3. *Pleurobema marshalli* Frierson. Tombigee River, Boligee, Green Co., Alabama. Holotype MZUM 80859. Length 55, height 43, width 30 mm (slightly reduced).

Fig. 4. *Pleurobema tombigbeanum* Frierson. Tombigbee River, Columbus, Lowndes Co., Mississippi. Lectotype ANSP 173339a, right valve. Length 37.5, height 40, width of single valve 13 mm (nat. size). Left valve, paralectotype ANSP 173339 (nat. size).

Fig. 5. *Pleurobema utterbackii* Frierson. White River, Hollister, Taney Co., Missouri. Holotype MCZ 271448, right valve. Length 68, height 42, width 26 mm (slightly enlarged).

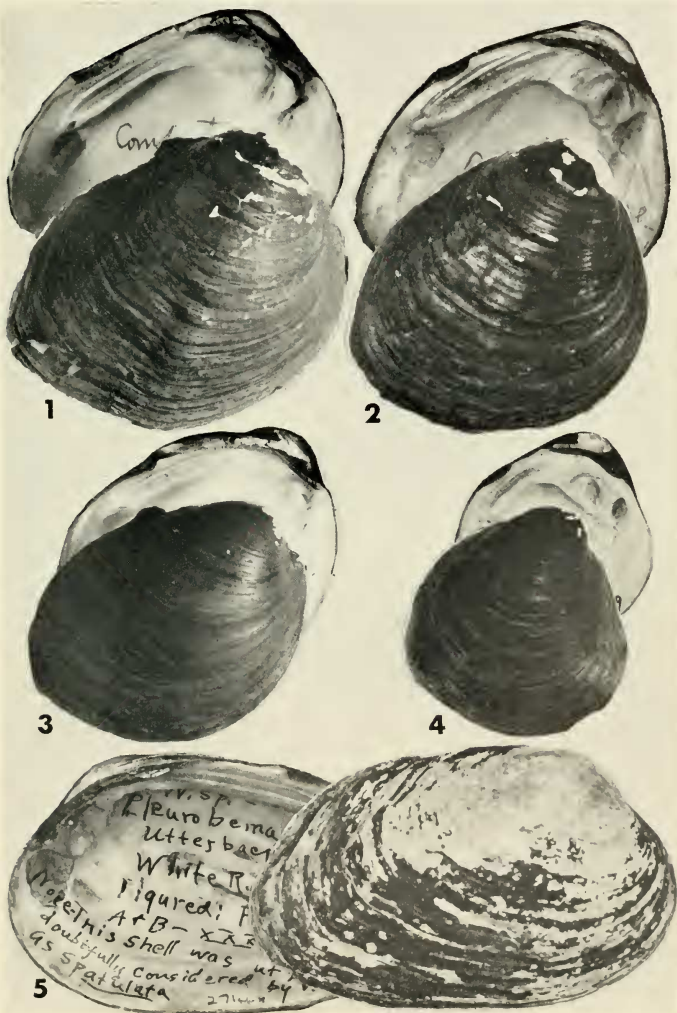


Plate 24

Plate 25

Fig. 1. *Unio (Pleurobema) hagleri* Frierson. North River, near Tyner, Tuscaloosa Co., Alabama. Lectotype ANSP 77902a. Length 52, height 36, width 24 mm (nat. size).

Fig. 2. *Pleurobema fictum* Frierson. Holotype MZUM 87575. Length 28, height 20, width 13 mm (nat. size).

Fig. 3. *Quadrula ribidula* Frierson. North River, Tyner, Tuscaloosa Co., Alabama. Holotype MZUM 113535. Length 36, height 32, width 22 mm (slightly reduced).

Fig. 4. *Quadrula lananensis* Frierson. Lanana and Banita creeks near Nacogdoches Nacogdoches Co., Texas. Lectotype ANSP 81561a. Length 73, height 53, width 34 mm (nat. size).

Fig. 5. *Quadrula flava sampsoniana* Frierson. Elk River, McDonald Co., Missouri. Lectotype MZUM 92226. Length 54, height 37, width 19 mm (slightly reduced).

Fig. 6. *Quadrula archeri* Frierson. Tallapoosa River, Tallassee, Elmore Co., Alabama. Holotype MZUM 113538. Length 34, height 28, width 14 mm (nat. size).

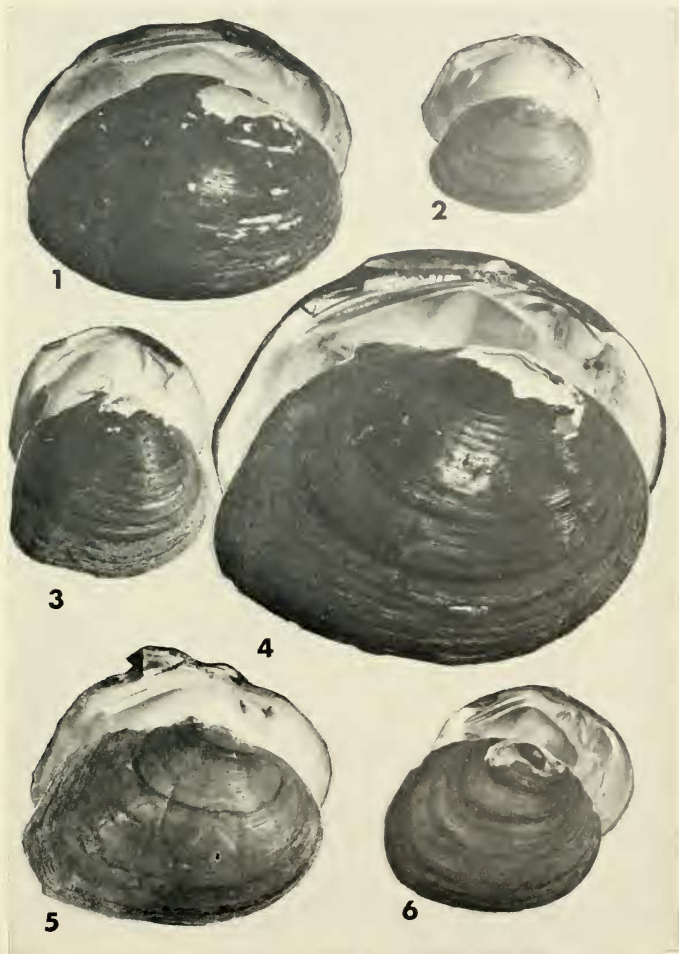


Plate 25

Plate 26

Fig. 1. *Quadrula vittata* Frierson. North America. Holotype British Museum [lost]. Length 40, height 30 mm (after Sowerby's figure of type, slightly enlarged).

Fig. 2. *Quadrula tuberculata utterbackiana* Frierson. Gasconade River, Gascondy, Osage Co., Missouri. Holotype [lost]. Length 60, height 55, width 32 mm (after Utterback's figure of type, original size).

Fig. 3. *Fusconaia undata trigonoides* 'Frierson' Utterback. Platte River, Agency Ford, Buchanan Co., Missouri. Holotype [lost]. (after Utterback's figure of type, original size).

Fig. 4. *Unio (Obovaria) jacksonianus* Frierson. Pearl River, Mississippi. Lectotype ANSP 106063a. Length 43.5, height 33, width 21 mm (Nat. size). Opposite valve is a paralectotype MZUM 107523.

Fig. 5. *Truncilla curtisii* Frierson and Utterback. White River, Hollister, Taney Co., Missouri. Holotype [lost]. (After Utterback's figure of type, original size).

Fig. 6. *Obliquaria reflexa conradi* Frierson. Alabama River, Alabama. Lectotype ANSP 56695a. Length 32, height 28, width 22 mm (slightly enlarged).

Fig. 7. *Truncilla curtisii* Frierson and Utterback. White River, Hollister, Taney Co., Missouri. Holotype [lost]. Female (109, A, B). Length 33, height 23, width 15 mm. Male (109, C, D). Length 22.5, height 19.5, width 13.5 (after Utterback's figure of type, original size).

Fig. 8. *Quadrula trapezoides pentagonoides* Frierson. Lake Charles, a shallow expansion of the Calcasieu River, N Lake Charles, Calcasia Parish, Louisiana. Lectotype ANSP 128928. Length 93, height 65, width 39.5 mm (slightly reduced).

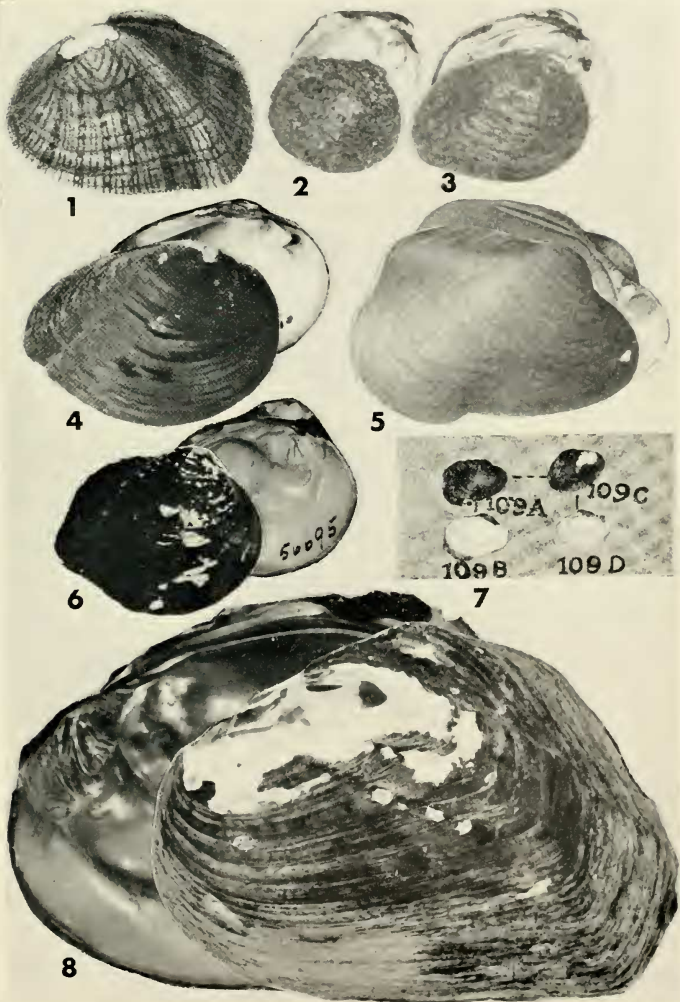


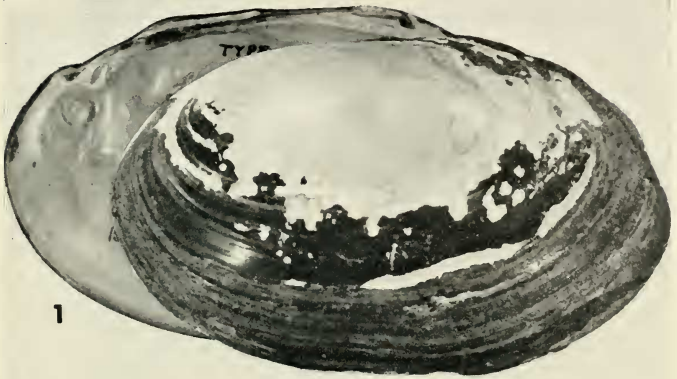
Plate 26

Plate 27

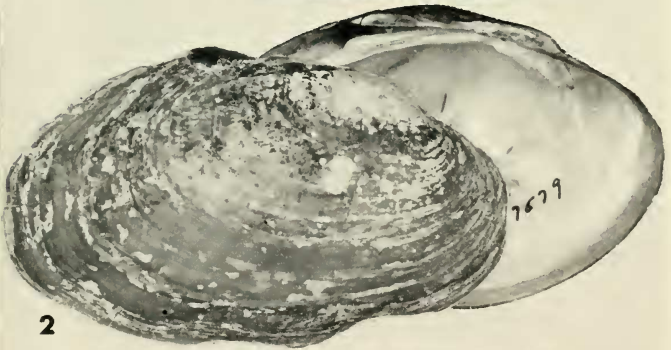
Fig. 1. *Unio* (*Lampsilis*) *amphichaenus* Frierson. Sabine River, Logansport, De Soto Parish, Louisiana. Holotype USNM 159935. Length 106, height 63, width 36 mm (somewhat reduced).

Fig. 2. *Lampsilis fimbriata* Frierson. Valles River, near Valles, San Luis Potosi State, Mexico. Holotype MZUM 87579. Length 80, height 47, width 25 mm (slightly enlarged).

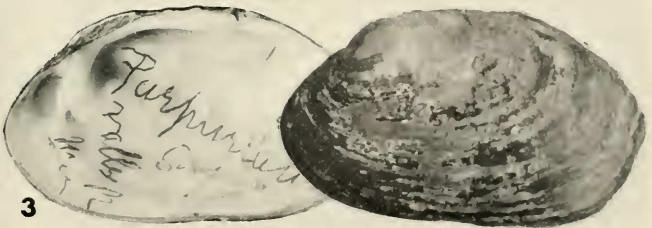
Fig. 3. *Lampsilis pilsbryana* Frierson. Mexico. Holotype MZUM 91175. Length 66, height 38, width 21 mm (slightly reduced).



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Plate 28

Fig. 1. *Lampsilis iridella* Pilsbry and Frierson. Valles River Valles, San Luis Potosi State, Mexico. Holotype ANSP 93810a. Length 49, height 26, width 15 mm (nat. size).

Fig. 2. *Lampsilis streckeri* Frierson. Little Red River, Arkansas. Holotype MZUM 91075. Length 65, height 38, width 22 mm (slightly reduced).

Fig. 3. *Lampsilis sowerbyana* Frierson. Duck River, Tennessee. Holotype [lost]. Length 83, height 52 mm (after Sowerby's figure, original size).

Fig. 4. *Lampsilis wrightiana* Frierson. Volusia Co., Florida. Holotype MZUM 91179 (originally 87577). Length 46, height 25, width 16 mm (slightly reduced).

Fig. 5. *Lampsilis rafinesqueana* Frierson. Indian Creek, McDonald Co., Missouri. Allotype MZUM [not found]. Length 82, height 52 mm (nat. size).

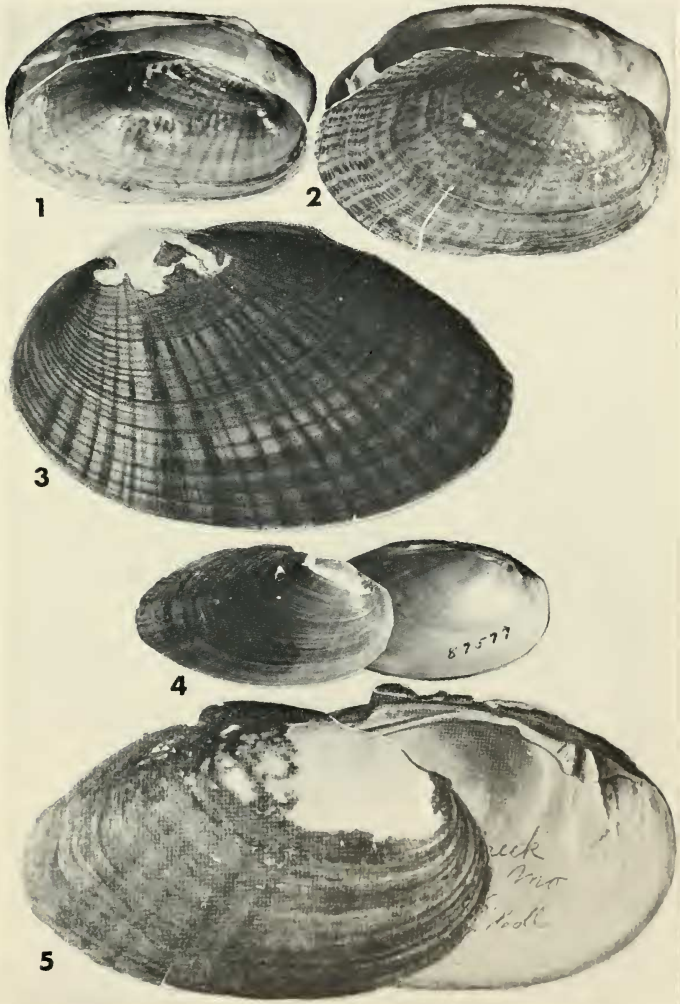


Plate 28

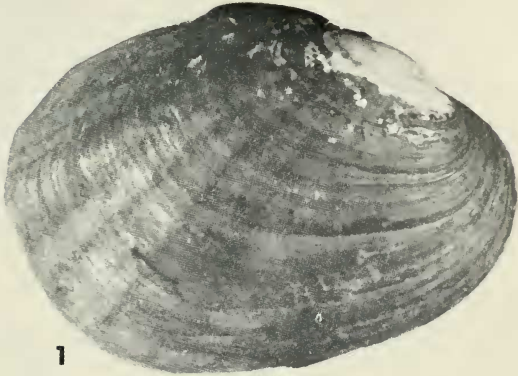
Plate 29

Fig. 1. *Lampsilis rafinesqueana* Frierson. [Mud Creek] Meodys, 10 mi. N Tahlequah, Cherokee Co., Oklahoma. Holotype MZUM 87576. Length 86, height 60, width 35 mm (nat. size).

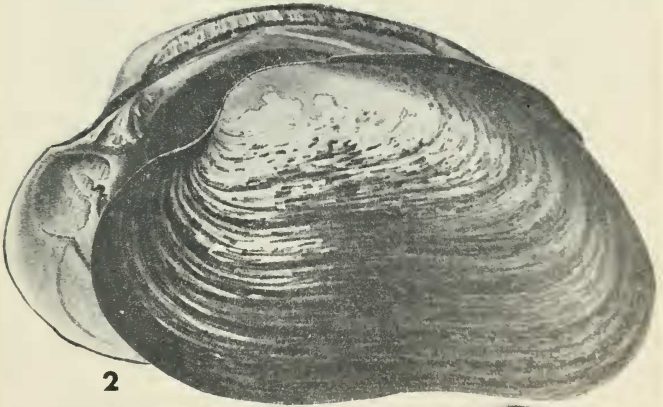
Fig. 2. *Lampsilis martensi* Frierson. Playas of Misantla, District of Misantla, State of Vera Cruz, Mexico. Holotype [lost]. Length 94, height 58, width 38 mm (after Marten's figure, original size).

Fig. 3. *Unio tenuisculus* Frierson. Reedy Lake, Polk Co., Florida. Lectotype MZUM 96312. Length 36.5, height 20, width 14.5 mm (nat. size).

Fig. 4. *Elliptio harciotti* Frierson. Guatemala. Holotype MZUM 97047. Length 46, height 26, width 17 mm (slightly enlarged).



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Plate 30

Fig. 1. *Lampsilis tampicoensis kusteriana* Frierson. Holotype [lost]. Tampico, Tamaulipas State, Mexico. Length 98, height 67 mm (after Kuester's figure, somewhat reduced).

Fig. 2. *Elliptio sajensis* Frierson. Saja River, 4 mi. W Esmeralda, Guatemala. Holotype MZUM 108010. Length 57, height 37, width 22 mm (nat. size).

Fig. 3. *Unio (Nephronaias) ortmanni* Frierson. Lectotype ANSP 977544a. Conchins River, near Quirigua, Izabal State, Guatemala. Length 82, height 44, width 30 mm (nat. size).

Plate 31

Fig. 1. *Psoronaias martensi* Frierson. Rio de las Salinas (or Chixoy) of the Usumacinta River system, Guatemala. Holotype [lost]. Length 68, height 54 mm (after Marten's figure, original size).

Fig. 2. *Psoronaias plexoideus* Frierson. Rio Usumacinta, Guatemala. Holotype [lost]. Length 59, height 38 mm (after Sowerby's figure original size).

Fig. 3. *Psoronaias kuxensis* Frierson. Kux Creek, Chama, Alta Verapaz State, Guatemala. Lectotype ANSP 117044a. Length 50, height 30, width 17 mm (slightly enlarged).

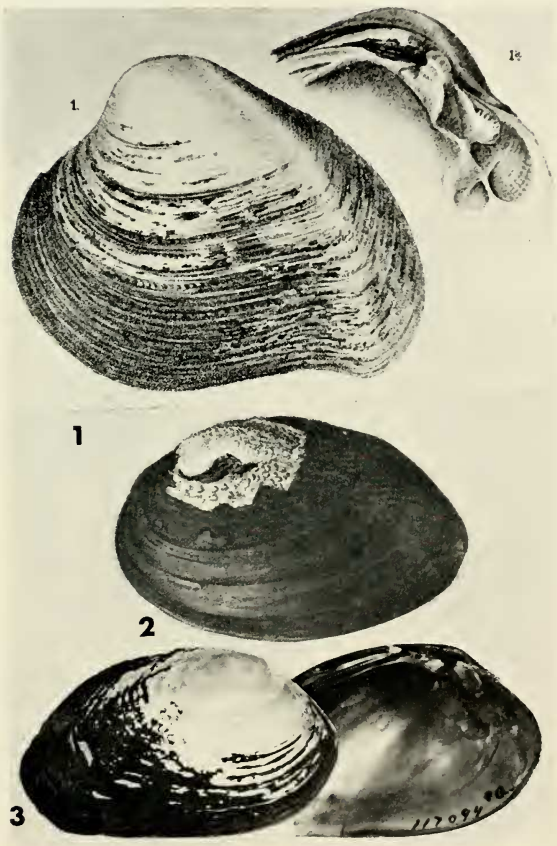


Plate 31

Plate 32

Fig. 1. *Parreysia lobensis* Frierson. Lobo River, Cameroon. Holotype MCZ 21164. Length 35, height 25, width 18 mm (nat. size).

Fig. 2. *Parreysia nyangensis* Frierson. Nyang River, Cameroon. Holotype MCZ 21160. Length 42, height 32, width 22 mm (nat. size).

Fig. 3. *Hyria amazonia* Frierson. Amazon River, Brazil. Holotype USNM 83877. Length 40, height 27, width 20 mm (nat. size).

Fig. 4. *Parreysia dalliana* Frierson. Pegu, Birma. Holotype Senckenberg Mus., Frankfurt 13699/2. Length 40.5, height 27, width 23 mm (after Haas' figure, original size).

Fig. 5. *Parreysia robsoni* Frierson. East Indies. Holotype British Museum (Nat. Hist.) 1965150. Length 27, height 20 mm (after Reeve's figure, original size).

Fig. 6. *Gibbosula confragosa* Frierson. North China. Holotype ANSP 145237. Length 99, height 68, width 40 mm (nat. size).

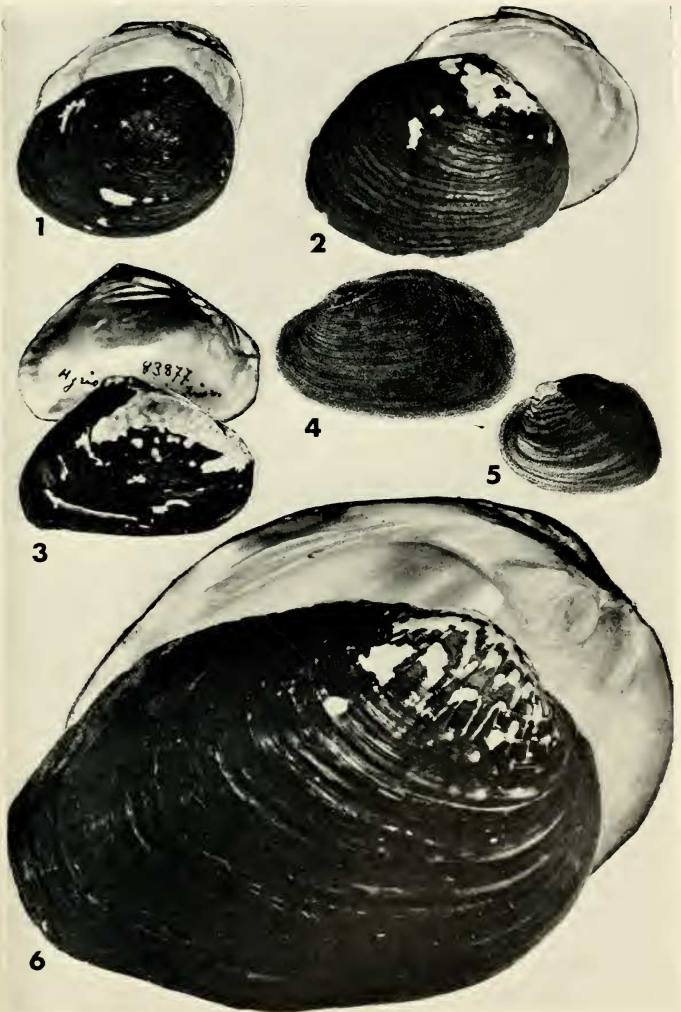


Plate 32